*Remarks:*

In the present paper, Claims 1-29 are pending. Claims 1, 2, 3, 5, 6, 13, 16, 26, 27, 28 and 29 have been amended. Support for the amendments can be found, for example, at paragraphs 14, 15 and 58 of applicants corresponding published patent application, U.S. Pat. Pub. No. 2005/0004769.

*35 U.S.C. § 101*

Claims 1-15 and 26 stand rejected under 35 U.S.C. §101. The Examiner argues that the claimed invention is not supported by either a credible asserted utility or a well established utility. In particular, the Examiner argues that a useful result of the claimed invention is not achieved under the "practical application" requirement.

On November 21, 2006, Thomas E. Lees, on behalf of the applicants, conducted a brief telephone conversation with the Examiner with regard to the basis of the §101 rejection. The Examiner indicated that, in his view, claims 1 and 26 are within the §101 Judicial exception because the claims recite an abstract idea. The Examiner further suggested that the claims be amended to recite something that occurs after analyzing the system status.

Claims 1 and 26 have been amended herein to further recite identifying a corrective action based upon the analysis of the system status. The applicants assert that, when reading each of claims 1 and 26 *as a whole*, the claims, as amended herein, meet the requirements for subject matter eligibility under 35 U.S.C. §101.

The applicants assert that claims 1 and 26 do not recite *merely* an abstract idea. For example, the claims are directed to monitoring components of a system using a set of component independent predefined situation categories to provide status information for analysis and do not fall within the §101 Judicial exception.

However, even assuming *arguendo* that claims 1 and 26 cover a §101 Judicial exception as the Examiner asserts, the claims, as amended herein, produce a useful, tangible and concrete result, thus satisfying the practical application test[1]. For example, the final result of claims 1 and 26 is an identification of corrective action that is based upon an analysis of the status of a system. Moreover, the system status is analyzed based upon a common situation format, by associating a status of at least one component of the system with one category of a set of component independent predefined situation categories so as to provide the status of the at least one component in the common situation format representation.

Thus, a useful result that is specific, substantial and credible is achieved in that the components of a system are monitored and corrective actions are identified. Moreover, the results are tangible, i.e., not abstract. For example, the result is an identification of a corrective action determined by monitoring system components. Moreover, a concrete result is achieved, in that the results are predictable and repeatable.

For at least the above reasons, the applicants believe that claims 1 and 26, and the claims that depend therefrom, define patentable subject matter under §101. The applicants thus request that the rejection is withdrawn.

*35 U.S.C. § 112, first paragraph*

Claims 1-15 and 26 also stand rejected under 35 U.S.C. § 112, first paragraph. The Examiner argues that since these claims are not supported by either a credible asserted utility or a well established utility, one skilled in the art would not know how to use the claimed invention.

The basis of the Examiner's rejection under 35 U.S.C. § 112, first paragraph, lies in the rationale provided for the above rejections under §101. The applicants have amended the claims to address the rejection under §101, and thus, presumably address the basis for the rejection under 35 U.S.C. § 112, first paragraph.

[1] See for example, the M.P.E.P. §2106.

Accordingly, the applicants respectfully request that the rejections to claims 1, 26 and the claims that depend there from be withdrawn under 35 U.S.C. § 112, first paragraph.

*35 U.S.C. § 112, second paragraph*

Claim 1 stands rejected under 35 U.S.C. § 112, second paragraph. In making this rejection, the Examiner argues that the element "associated one" in claim 1 is indefinite. Claim 1 has been amended herein to remove the term "associated one", and to clarify that a status of at least one component of the system is associated with one category of a set of component independent predefined situation categories. Accordingly, the applicants respectfully request that the Examiner withdraw this rejection of claim 1.

Claims 1-15 and 26 also stand rejected under 35 U.S.C. § 112, second paragraph. In making this rejection, the Examiner argues that it is not clear what is meant by "common situation format" disclosed in the claims. The Examiner similarly argues that the recitation of "system based on sufficiently correlated ones" in claim 6 is not clear.

The applicants respectfully traverse these rejections. According to the M.P.E.P. §2173.02, a claim element is definite within the meaning of 35 U.S.C. 112, second paragraph, if the claim language provides at least a *reasonable degree* of particularity and distinctness. Some latitude in the manner of expression and the aptness of terms should be permitted even though the claim language is not as precise as the examiner might desire.

It is the applicants position that those skilled in the art would understand the claimed elements "common situation format" and "system based on sufficiently correlated ones" when the claim, as a whole, is read in light of the specification[2].

The specification provides several illustrative exemplary implementations of what may constitute a common situation format. By way of illustration and not by way of limitation:

[2] See for example, *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576, 1 USPQ2d 1081, 1088 (Fed. Cir. 1986).

> Embodiments of the present invention provide for and/or use a common situation format representation of component and/or system status. The common situation format may provide for the characterization of component and/or system status as one of a predefined set of categories of situations and, thereby, provide device independent status information. Thus, analysis of the status of a component and/or a system may be based on the predefined categories of information and, therefore, may be made substantially independent of the component specific error reporting of individual components.[3]

> Embodiments of the present invention have been described herein with reference to a particular common situation format. However, the term "common situation format" is used herein in its generic sense and should not be construed as limited to a particular format but is intended to include other formats the utilize situational information to categorize status and/or actions. Thus, for example, additional information may be provided in a common situation format message or multiple messages may be combined to a single message having additional information. Furthermore, multiple situational information may be provided in a single message while still providing a common situation format representation of the status and/or action.[4]

With regard to claim 6, the applicants believe that the recitation of "system based on sufficiently correlated ones" is sufficiently clear. For example, perfect correlation may not be required in order to determine the status of the system, e.g., so long as ones of the obtained common situation format representations that correlate are sufficiently correlated to determine a status.

In view of the clarifying remarks herein, the applicants believe that, when reading the claims as a whole, the terms are substantially clear within the meaning of 35 U.S.C. § 112, second paragraph. Thus, the applicants request that the rejection is withdrawn.

*35 U.S.C. § 103(a)*

Claims 1-29 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Pat. No. 6,751,753 to Nguyen et al. (hereinafter, Nguyen) in view of U.S. Pat. No. 6,167,538 to Neufeld et al. (hereinafter, Neufeld). According to the M.P.E.P. §706.02(j), to establish a *prima facie* case of obviousness, the prior art reference must teach or suggest all the claim limitations.

[3] See for example, applicants published patent application U.S. Pat. Pub. 2005/0004769, paragraph 36.
[4] See for example, applicants published patent application U.S. Pat. Pub. 2005/0004769, paragraph 59.

It is the applicants' position that a *prima facie* case of obviousness has not been established for the claims as amended herein.

With regard to claims 1, 26 and 28, it is the applicants position that neither Nguyen nor Neufeld teach or suggest "...associating a status of at least one component of the system with one category of a set of component independent predefined situation categories so as to provide the status of the at least one component in a common situation format that includes the one category..."

In Nguyen, a plurality of system agents are provided, which collectively monitor system hardware and software resources[5]. The agent associated with each monitorable resource monitors for the presence of conditions that are unique to the corresponding monitored resource[6]. Thus, the agents may query the monitored resource directly to obtain system status information. Additionally, the agent may read a log file of status information and/or system parameters that is created by the monitored resource[7].

However, Nguyen is completely silent with regard to, and fails to teach or suggest that a status of at least one component of the system is associated with one category of a set of component independent predefined situation categories so as to provide the status of the at least one component in a common situation format that includes the one category.

To the contrary, Nguyen appears to teach away from the use of component independent predefined situation categories. For example, each monitored resource is provided with a specially trained agent that is implemented as a state machine. Each state machine is constructed so as to define a plurality of states and transition conditions that define the movement between states. Each transition condition is based upon a function of a measured resource parameter and a parameter of the current state[8]. Thus, the state machine agents must be trained to read the ad

[5] See for example, Nguyen, Col. 3, lines 5-13.
[6] See for example, Nguyen, Col. 3, lines 14-47.
[7] See for example, Nguyen, Col. 3, line 63 – Col. 4, line 3.
[8] See for example, Nguyen, Col. 4, lines 4-16

hoc log files, query responses, and other proprietary interfacing data of the respective monitored resource.

Moreover, Nguyen fails to teach or suggest "...analyzing system status based on the common situation format representation of the status of the at least one component"

Again, Nguyen appears to teach away from this. As noted above, in Nguyen, each state machine agent is encoded with rules that determine the transitions of its states. If a rule is satisfied, then a transition to the appropriate state is performed and a state action associated with the state action is performed[9]. As pointed out above, Nguyen does not teach or suggest analyzing information in a common situation format representation, but rather relies upon the ad hoc proprietary information, e.g., logs, query responses, etc., from the corresponding monitored resources.

Moreover, Nguyen does not teach or suggest analyzing system status or identifying corrective action based upon an analysis of the system. In Nguyen, each agent is customized to monitor the particular resource parameters made available by the corresponding monitored resource. For example, given the system in Nguyen, a first storage agent would need to be constructed from a first set of state machine rules to monitor a first storage disk that uses a first set of event codes. A second, different storage agent would be require a different set of state machine rules to monitor a second storage disk that uses a second set of event codes, e.g., as may be the case where the first and second storage devices are provided by different manufacturers.

For a given agent, each state is associated with at least one transition condition, which is based upon monitored parameter(s) of the corresponding resource. When a transition condition is satisfied, the machine moves to the transition state and implements a transition action, which may comprise specifying an alarm, notification, message, log entry, etc[10]. However, the state machines, and the transitions of their states are generally not "system wide" but are rather limited

[9] See for example, Nguyen, Col. 4, lines 17-31.
[10] See for example, Nguyen, Col. 4, lines 17-30.

in scope to their corresponding monitored resources. Thus, as the Examiner aptly points out, Nguyen does not teach system monitoring.

Moreover, it is the applicants position that Neufeld fails to teach or suggest "...associating a status of at least one component of the system with one category of a set of component independent predefined situation categories so as to provide the status of the at least one component in a common situation format that includes the one category..."

In Neufeld, behavioral data generated by system components is tracked. The behavioral data includes for example, events, rates, totals, averages and states. A user interacting with the data monitors the operation of the component by analyzing the various behavioral data it receives from the component[11].

As noted in Neufeld, a performance monitor 126 interacts with interface mechanisms, e.g., drivers for hardware and programming interfaces for software, to monitor the operation of a computer system[12]. The real-time data generated by monitored hardware/software can include a variety of different items, such as frequency of events, processor usage, memory usage, bus usage, threshold checks, performance statistics, etc., and may be used by the performance monitor 126, or some other operating device or process that utilizes the real-time data, to perform, for example, software tuning, load balancing, driver tuning and/or failure prediction, etc. [13] Neufeld further discloses interface mechanisms such as drivers and programming interfaces that may further attach time stamps to the event data provided by the corresponding components[14].

Although Neufeld discloses in general, the ability communicate monitored event data, Neufeld is completely silent as to, and fails to teach or suggest associating a status of at least one component of the system with one category of a set of component independent predefined situation categories so as to provide the status of the at least one component in a common

[11] See for example, Neufeld, Col. 4. lines 11-27.
[12] See for example, Neufeld, Col. 5, lines 5-33.
[13] See for example, Neufeld, Col. 5. lines 34-48.
[14] See for example, Neufeld, Col. 7, lines 13-45.

situation format that includes the one category. Rather, in Neufeld, it appears that the performance monitors are left to understand the ad hoc event data that is communicated by the monitored hardware/software. There is no disclosure of component independent situation categories, nor is there any disclosure of associating the monitored events with categories that are provided in a common situation format.

Still further, Neufeld is silent with respect to, and fails to teach or suggest analyzing system status based on the common situation format representation of the status of the at least one component. As noted above, there is no reference of monitoring data in common situation format. Rather, it appears that the data is read, e.g., in its native form.

In view of the clarifying amendments and remarks herein, the applicants respectfully request that the rejections under 35 U.S.C. § 103 to claims 1, 26 and 28 and the claims that depend there from, be withdrawn.

In support of the rejection of dependent claims 2-7, 17-23, the Examiner attempts to read the claimed "...obtaining a status message from a component; classifying the status message based on the contents of the status message so as to identify the one of the set of component independent predefined situation categories; and generating a common situation format representation of the status message based on the identified category..." onto the "status object" component of an object oriented implementation of a state machine agent disclosed in Nguyen[15]. Contrary to the Examiner's conclusion, it is the applicants' position that, when reading the dependent claims as a whole, Nguyen can not teach or suggest that which is claimed.

The embodiment disclosed in Nguyen and relied upon by the Examiner in making the above rejection comprises the use of an object oriented implementation of the state machine. The implementation includes a status object class 100, which is used to instantiate status objects that stores information relative to the state of the machine. Each state of the state machine is one instance of a state class 102, which is itself a base class of the basic state class 104 and a counter

[15] See for example, the Office action mailed August 23, 2006. page 5.

state class 106. The transition condition for the corresponding state is stored in a data evaluation function 108. A transition array 110 is used to define the interconnection of the states[16]. However, the use of well known object oriented techniques to create and instantiate classes does not teach or suggest, for example, classifying status messages and generating a common situation format representation of the status message based upon the identified category, as claimed.

In view of the amendments and clarifying comments herein, the applicants respectfully request that the rejection to claims 2-7, 17-23 under 35 U.S.C. § 103, be withdrawn.

With regard to claims 16, 27 and 29, Nguyen combined with Neufeld fails to teach or suggest classifying component specific status information so as to identify one category of a set of component independent predefined situation categories based on the component specific status information and generating a common situation format representation of the component specific status information based on the identified one category.

In support of the rejection, the Examiner argues that the claimed classifying component specific status information so as to identify one category of a set of component independent predefined situation categories based on the component specific status information reads on the disclosed states of the monitor state machines of Nguyen.

The applicants respectfully traverse this interpretation. Nguyen does not teach classifying component status information at all. Rather, each state machine is trained to have a plurality of states where each state is capable of having a state action and a state transition. A measured system parameter is made and if the measured parameter meets the conditions of a corresponding rule associated with the current state, then a transition occurs and an action is performed[17].

Thus, each state must be trained to the ad hoc parameter measured at that state. There is no teaching or suggestion in Nguyen or Neufeld of classifying component status information.

[16] See for example, Nguyen, Col. 4, line 55 - Col. 5. line 24.
[17] See for example, Nguyen, Col. 2. lines 1-14.

Moreover, there is no teaching or suggestion of a generating a common situation format representation of the component specific status information based on the identified one category of a set of component independent predefined situation categories based on the component specific status information, as set out in greater detail herein.

In view of the amendments and clarifying comments herein, the applicants respectfully request that the rejection of claims 16, 27 and 29 under 35 U.S.C. § 103, be withdrawn.

*Conclusion*

For all of the above reasons, the applicants respectfully submit that the above claims recite allowable subject matter. The Examiner is encouraged to contact the undersigned to resolve efficiently any formal matters or to discuss any aspects of the application or of this response. Otherwise, early notification of allowable subject matter is respectfully solicited.

Respectfully submitted,
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